

Cutaneous Body Image: Empirical Validation of a Dermatologic Construct

To the Editor:

Cutaneous body image may be defined as the individuals' mental perception of the appearance of their integumentary system, i.e., their skin, hair, and nails. Cutaneous body image is an important dermatologic construct—both in the wide range of cosmetically disfiguring skin disorders where cutaneous body image dissatisfaction can have a profound impact upon the quality of life of the patient, and in situations where the cutaneous body image is distorted such as body dysmorphic disorder. Patient dissatisfaction with cutaneous body image is often the primary consideration in deciding whether or not to institute treatments in some skin disorders. In this study, we have empirically examined the construct of cutaneous body image among a non-clinical sample of community-based subjects and developed an initial measure of this construct.

Results

Three hundred and twelve community-based subjects (71 men and 241 women; mean \pm SD age: 38.4 ± 14.9 y; marital status: 53.6% married, 33.0% single, 13.4% divorced/widow or widower/separated; race: 94.4% "white", 2.8% "black", 2.8% Native Indian/Asian/"other") and 127 dermatology outpatients (diagnosis at time of referral: 28.3% acne, 21.3% psoriasis, 40.1% onychomycosis/athlete's foot, and 10.3% atopic dermatitis/alopecia/other) (69 men and 56 women; mean \pm SD age: 44.0 ± 19.9 y; marital status: 54.6% married, 31.5% single, 13.9% divorced/widow or widower/separated; race: 87.9% "white", 3.7% "black", 8.4% Native Indian/Asian/"other") completed the questionnaire.

The frequency distributions, with superimposed normal curves (from the community survey of nonclinical subjects) of the *CutaneousBI* variable at baseline and re-test, are presented in Fig 1. Figure 1 indicates that the *CutaneousBI* scores showed no significant departure from normality at either baseline ($N = 312$) (mean \pm SD: 4.96 ± 1.73 ; median: 4.86; range 0–9) or for the re-test within 4 wk (mean \pm SD: 5.00 ± 1.86 ; range 0–9). A higher *CutaneousBI* score indicates greater satisfaction with the cutaneous body image.

Measures of reliability Cronbach's α was computed to be 0.83, suggesting that the seven items of the *CutaneousBI* scale demonstrate a high degree of internal consistency. The *CutaneousBI* scores at baseline were significantly and substantively correlated with the re-test scores ($r = 0.82$, $p < 0.001$), suggesting that the *CutaneousBI* measure demonstrates very good test–retest reliability.

Construct validity There was a marginal negative correlation ($r = -0.10$, $p = 0.08$) between *CutaneousBI* scores and age, consistent with the fact that with increasing age, the usual attributes of cutaneous attractiveness typically decline. *CutaneousBI* scores among men (mean \pm SD: 5.8 ± 1.8) were significantly ($p < 0.001$) higher than the women (mean \pm SD: 4.7 ± 1.6) consistent with the observation that body image concerns are generally greater among women. Examination of the different categories under marital status and education revealed no significant difference in *CutaneousBI* scores between the groups. The *CutaneousBI* score in the clinical dermatology group (mean \pm SD: 4.44 ± 1.56) was significantly lower ($p = 0.004$) than the nonclinical group (mean \pm SD: 4.96 ± 1.73), indicating that the dermatology group reported significantly greater cutaneous body image dissatisfaction.

A stepwise multiple regression analysis was conducted, using all the psychological (BSI, *Brief Symptom Inventory*)- and body image (EDI, *Eating Disorder Inventory*)-related ratings as independent variables and *CutaneousBI* as the dependent variable. This analysis revealed that the *Interpersonal Sensitivity* (BSI) ($\beta = -0.23$) and *Body Dissatisfaction* (EDI) ($\beta = -0.30$) were the best predictors of *CutaneousBI* (adjusted $R^2 = 0.19$, $p < 0.001$). *Interpersonal Sensitivity* (BSI) is a measure of a lack of ease during interpersonal interactions, and *Body Dissatisfaction* (EDI) measures dissatisfaction with the shape and weight, further supporting the impact of cutaneous body image upon socialization and satisfaction with other general aspects of body image.

Discussion

Our results suggest that the cutaneous body image, measured by the 7-item *CutaneousBI* scale, represents a core and meaningful dermatologic construct, which is highly internally consistent, demonstrates good test–retest reliability, is able to discriminate between non-clinical and dermatologic samples, and has an underlying normal distribution like many clinical variables in medicine. In this initial study, the subjects were chosen from a pool of volunteers, were not selected randomly, and there were more women than men. The normal distribution of the *CutaneousBI* scores suggests therefore, that the construct is robust and possibly highly clinically relevant. Our initial findings suggest that the 7-item instrument may prove to be a useful template for the assessment of cutaneous body image and the development of more sensitive instruments.

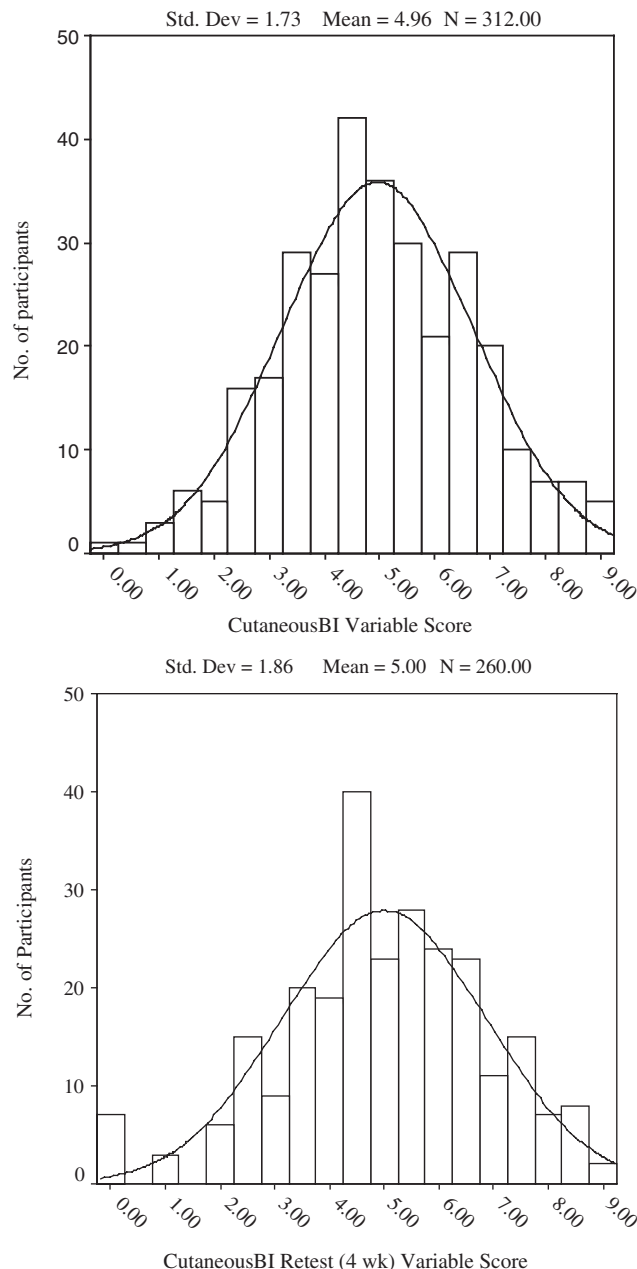


Figure 1
Distribution of *CutaneousBI* scores in a nonclinical sample.

Methods

The study questionnaire was approved by the University of Western Ontario Office of Research Ethics, London, Ontario, Canada, and an Independent Institutional Review Board Services (Aurora, Ontario, Canada). The data for this study were obtained from two samples: (1) A large community-based survey of 312 of 560 (response rate of 55.7%) consecutive consenting non-clinical subjects from the community at large (recruited from the local university, schools and churches), in London, Ontario, Canada who completed a battery of self-rated questions including items related to satisfaction with various aspects of body image including the skin, hair and nails, and psychological symptoms. 83.3% of these respondents (N=260) completed a retest questionnaire within a 4-

wk period. Exclusion criteria for the study were a current or past history of any major dermatologic or other medical problems; and (2) 127 of 300 (42.3% response rate) consecutive consenting patients from a dermatology outpatient service (AKG) who were recruited over a 6-wk period, primarily for further evaluation of construct validity.

Assessment of cutaneous body image The following seven cutaneous body image items were rated on a 10-point Likert-type rating scale. The subjects circled one number that best described their response. A rating of "0" denoted "Not at all", a rating of "1–3" denoted "Slightly", a rating of "4–6" denoted "Moderately", a rating of "7" and "8" denoted "Markedly", and a rating of "9" denoted "Very markedly".

Item 1: "I like the overall appearance of my skin"

Item 2: "I like my complexion or overall color of my skin"

Item 3: "I like the appearance of the skin of my face"

Item 4: "I like the complexion or the overall color of the skin of my face"

Item 5: "I am very satisfied with my hair"

Item 6: "I am satisfied with the appearance of my fingernails"

Item 7: "I am satisfied with the appearance of my toenails"

A composite cutaneous body image score (*CutaneousBI*) was derived by obtaining an average score of the seven individual ratings.

Psychological and other body image ratings The BSI (Derogatis and Spencer, 1982), a 53-item pre-validated instrument that measures the 9 major psychological symptom dimensions of *Anxiety*, *Depression*, *Phobic Anxiety*, *Paranoid Ideation*, *Obsessive Compulsiveness*, *Somatization*, *Interpersonal Sensitivity*, *Hostility*, and *Psychoticism* was used in addition to the *Drive for Thinness* (DT) and *Body Dissatisfaction* (DB) subscales of the EDI, which are standardized and more traditional ratings of body image that assess satisfaction with body weight and shape in patients with eating disorders (Garner *et al*, 1983).

Statistical analysis Descriptive statistics were used to examine the distribution of the cutaneous body image (*CutaneousBI*) variable. Internal consistency reliability was tested using Cronbach's α . Stepwise multiple regression analysis using all the psychological and body image ratings as dependent variables was used to examine the best predictors of *CutaneousBI*. Independent sample *t* tests and ANOVA were used to examine the differences between continuous variables.

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